

Energy Planning and Act 174



Agenda

9:00 - Welcome, Timeline, and Objectives

Jon Copans, Deputy Commissioner, DPS

9:15 - Presentation of stakeholder process and ideas to date

Asa Hopkins, Director of Energy Policy & Planning, DPS

10:00 - Break (10 minutes)

10:10 - Break-out discussion sessions (1 hour 20 minutes)

11:30 - Reconvene to discuss results and dot voting (30 minutes)

12:00 - Conclude

Goals for Today's Discussion

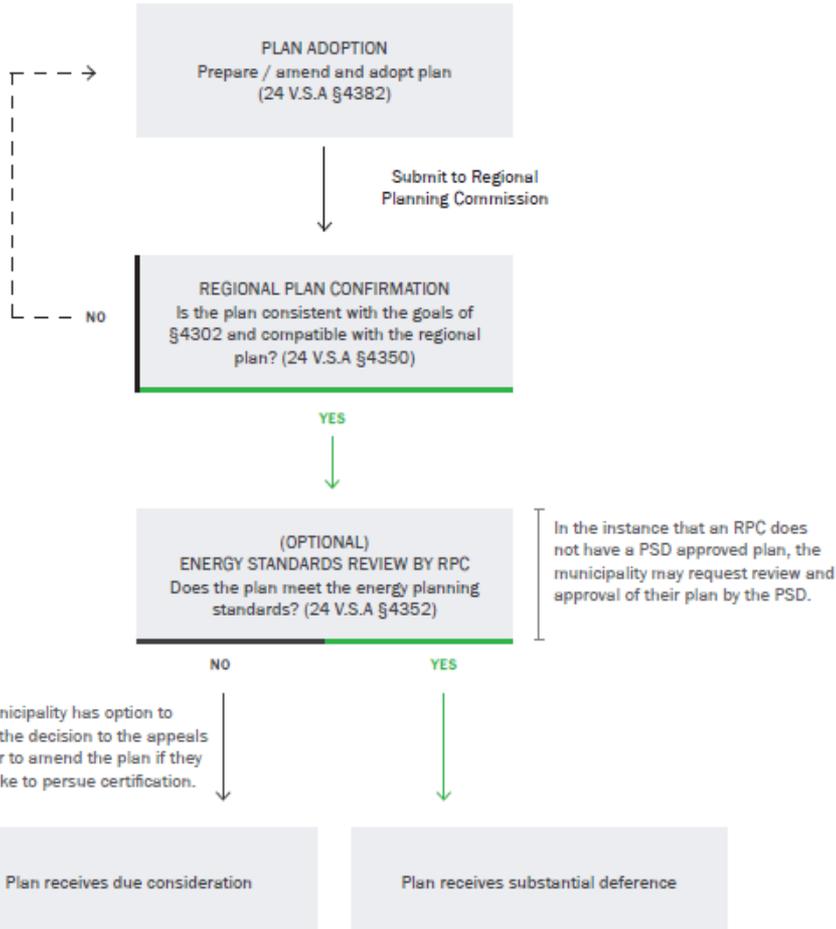
1. Review Act 174 requirements, progress to date, and next steps
2. Gather feedback on ways to write standards, and questions Department staff are currently wrestling with
3. Exchange ideas about potential standards for efficiency, transportation/land use, and generation/mapping

Act 174 – Planning Process Overview

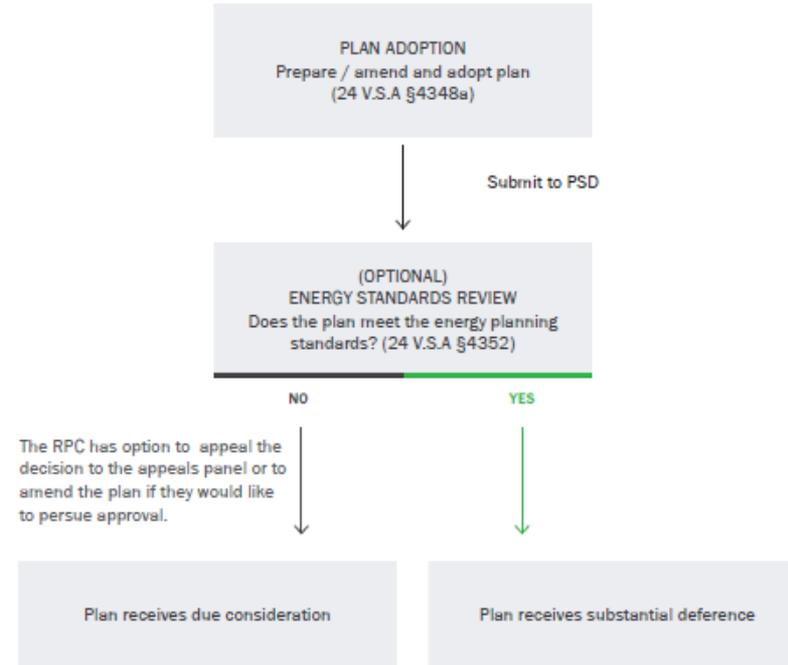
- Optional; if municipalities choose not to pursue, then status quo. RPCs required to increase baseline energy planning. If municipalities pursue, must increase baseline energy planning like RPCs.
- Regions: submit adopted plan to DPS for determination of energy compliance. If affirmative, regional plan gets substantial deference in 248.
- Municipalities: submit adopted plan to RPC (if RPC itself has an affirmative determination) for determination of energy compliance. If affirmative, municipal plan gets substantial deference in 248.
- Until July 1, 2018, if RPC hasn't yet received a determination, municipalities may submit plans directly to DPS for a determination.
- Review includes a public hearing noticed 15 days in advance.
- DPS or RPC shall issue determination within 2 months of request.
- Resubmissions following a negative determination to be determined w/in 45 days.
- RPCs may appeal to the Natural Resources Board within 30 days.

Act 174 Energy Planning Overview

MUNICIPAL PLAN 248 DEFERENCE PROCESS 24 V.S.A §4352



REGIONAL PLAN 248 DEFERENCE PROCESS 24 V.S.A §4352



Timeline

- To date: focus groups on transportation, efficiency, and generation; survey; today's focus group discussion
- September 2016: draft standards and CEP recommendations posted
- Sept.-Oct. 2016: public hearing(s) and comments
- Nov. 1, 2016: recommendations and standards published
- Winter 2016 through 2017: training for towns and regions in partnership with RPCs and VLCT
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- July 1, 2018: End-point of time-limited option for DPS review of municipal plans for determination of energy compliance
- Jan. 15, 2022 and every 6 years thereafter: new Comprehensive Energy Plans published with revised recommendations and standards

Regional Energy Planning Underway

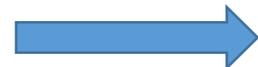
- Round 1: Bennington, Two-Rivers, Northwest RPCS
 - Draft plans submitted (one year in)
 - Final plans complete in early 2017
- Round 2: Rutland, Southern Windsor, Central VT, Lamoille, Windham, Addison, Chittenden, NVDA (all remaining RPCs)
 - Started summer 2016; draft plans due June 2017
 - Final plans complete in early 2018

Standards

As required by Act 174, standards must address:

1. Analysis of total current energy use across transportation, heating, and electric sectors
2. Identification and mapping of existing electric generation and renewable resources
3. Establishment of 2025, 2035, and 2050 targets for energy conservation, efficiency, fuel-switching, and use of renewable energy for transportation, heating, and electricity
4. Analysis of amount of thermal-sector conservation, efficiency, and conversion to alternative heating fuels needed to achieve these targets

Continued...



Standards (continued)

5. Analysis of transportation system changes and land use strategies needed to achieve these targets
6. Analysis of electric-sector conservation and efficiency needed to achieve these targets
7. Pathways and recommended actions to achieve these targets, informed by this analysis
8. Identification of potential areas for the development and siting of renewable energy resources and of the potential electric generation from such resources in the identified areas, taking into account factors including resource availability, environmental constraints, and the location and capacity of electric grid infrastructure
9. Identification of areas, if any, that are unsuitable for siting those resources or particular categories or sizes of those resources

DPS must publish both Standards & Recommendations

Standards will include a list of criteria for issuing a determination of energy compliance that ensures consistency with the state's energy goals and policies and the recommendations from the state energy plan.

Recommendations will be initially be drawn from recommendations already contained in the 2016 Comprehensive Energy Plan, filtered by relevancy to regions and towns. They will provide strategies and options to meet the state's energy goals and policies.

Determination of Energy Compliance (Substance)

To receive an affirmative determination, a plan must:

- Include enhanced energy element that looks at all energy sectors (electric, thermal, transportation) and includes identification of potential and unsuitable areas for siting energy resources;
- Be adopted and, for a municipal plan, confirmed;
- Be consistent with state energy goals:
 - Greenhouse gas goals under 10 V.S.A. § 578(a)
 - 25 x 25 goal for renewable energy under 10 V.S.A. § 580
 - Building efficiency goals under 10 V.S.A. § 581
 - State energy policy expressed in the Comprehensive Energy Plan
 - The Renewable Energy Standard
- Meet the standards for issuing a determination of energy compliance

NOTE: The determination applies to, and draws upon, the entire plan, not just the energy element.

Analysis required by Act 174

Much of it is already complete, though it needs to be modified to a regional or town level.

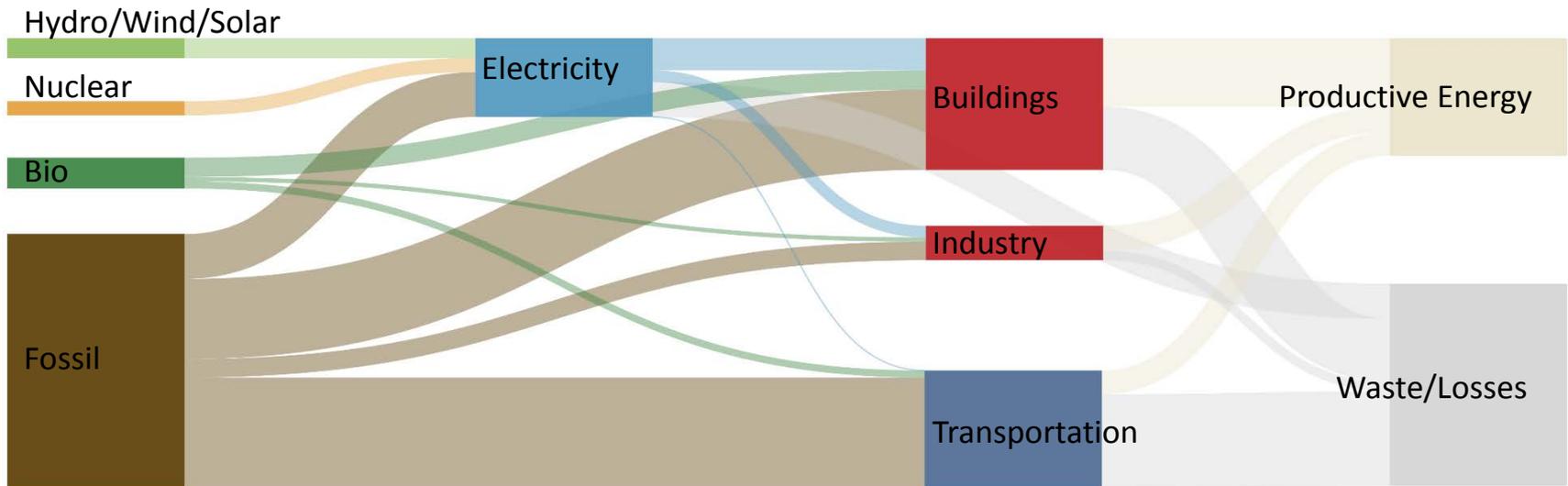
Total energy study (2014)

- Modeled state-wide mix of resources under different policies and scenarios.
- Used data about economic, environmental, and technological parameters to predict what is likely to happen under different scenarios.
- Informed the Renewable Energy Standard and the 2016 Comprehensive Energy Plan.

LEAP analysis by VEIC (2015 and ongoing)

- Built on the findings of the TES.
- Shows ways that the state could get to 90% renewable by 2050.
- LEAP is an *accounting framework*. Users tell the model the generation mix to target. It does NOT predict or dictate the mix.

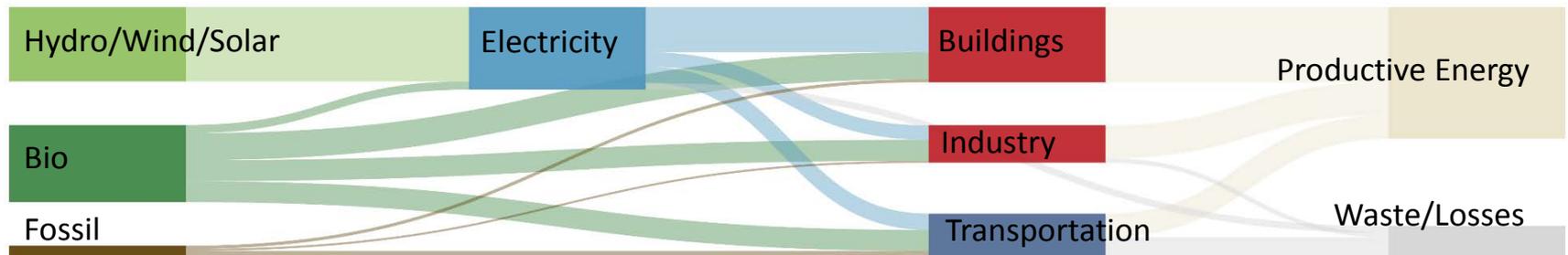
Energy Flows: 2015



How to read this diagram:

- Move from primary energy inputs on the left to demand on the right
- The height of each bar represents the total amount of energy

Energy Flows: 2050

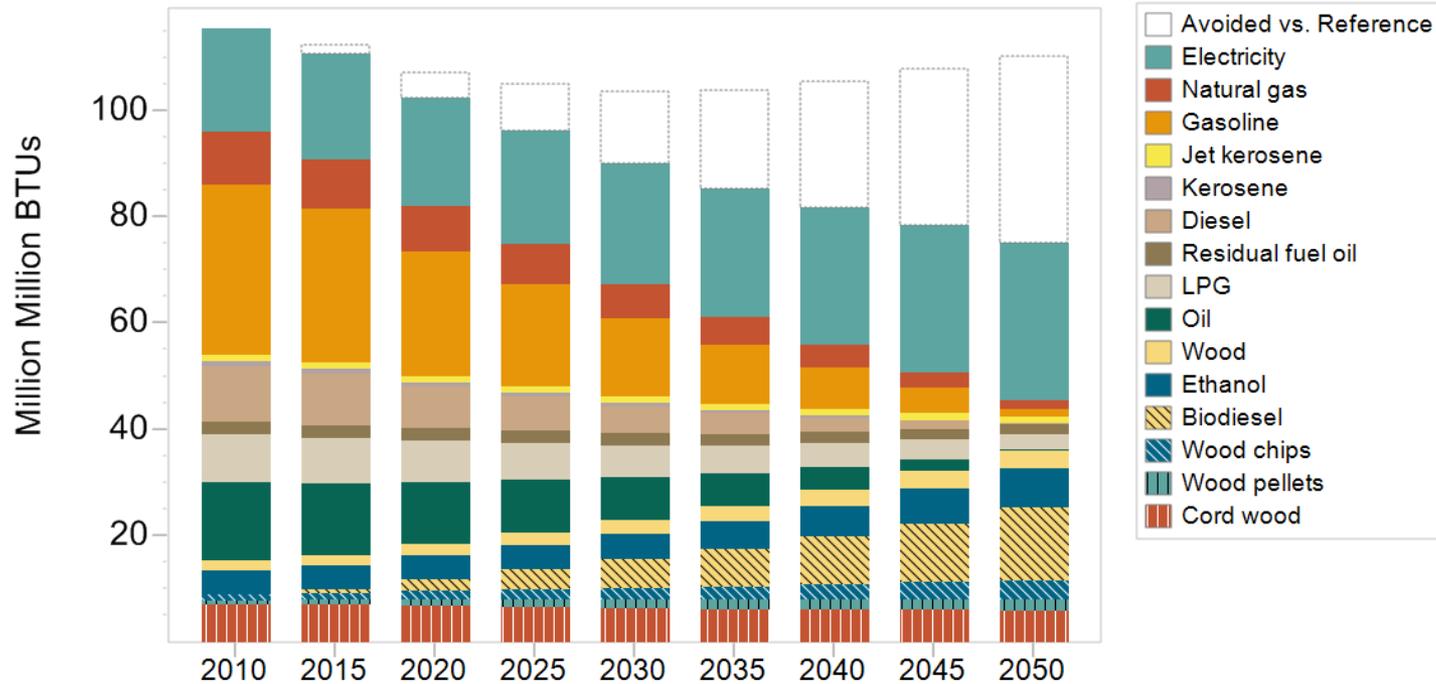


Notice that...

- The whole pie is much smaller. Efficiency in all areas (electricity, heating, transportation, etc.) is very important.
- Electricity use **grows** by 1/3 because we electrify many functions
- Biofuels (including wood and liquid biofuels) constitute a major source of energy.

LEAP modeling done by VEIC

Energy Demand Final Units
90x50VEIC Scenario Avoided vs. Reference, Statewide



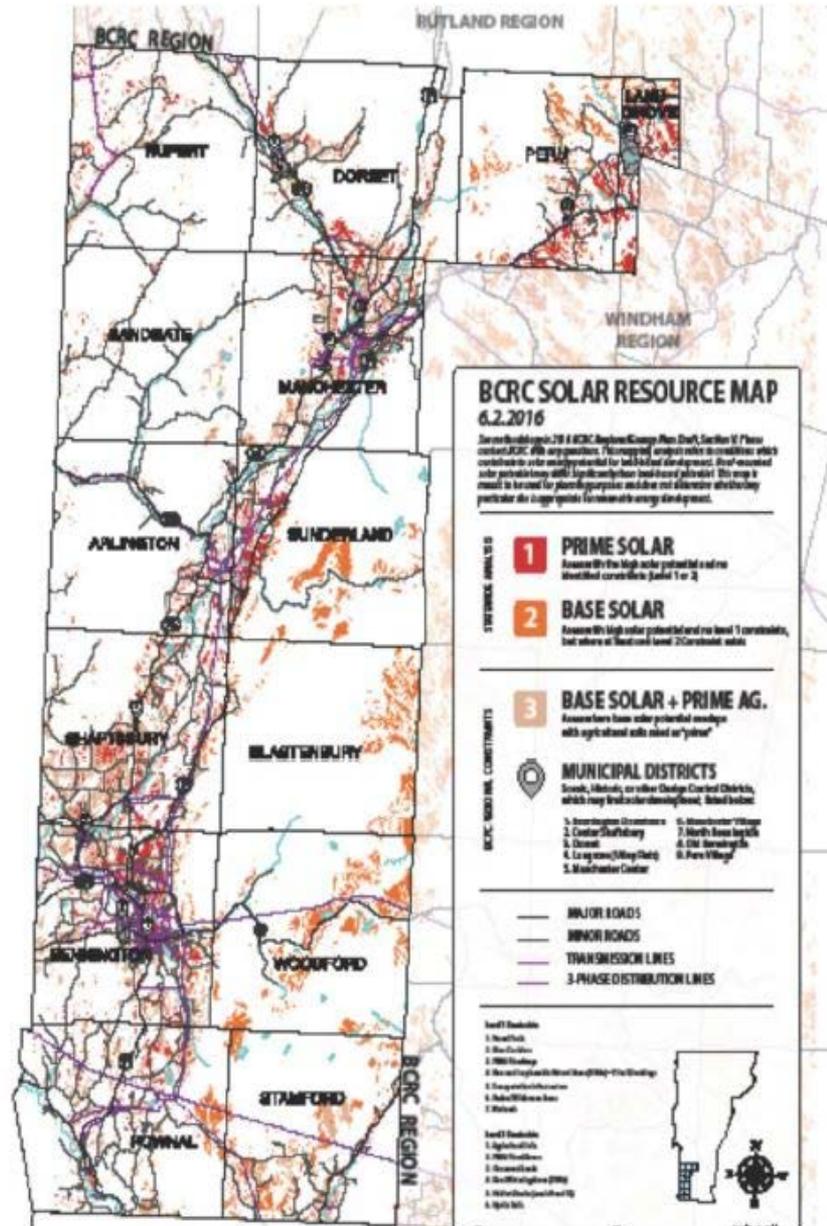
Mapping

- Mapping of potential resources (wind, solar, hydro, biomass) and primary and secondary constraints is available for the entire state through the Regional Planning Commissions.
 - Primary includes: Vernal Pools, River Corridors, FEMA Floodways, Rare and Irreplaceable Natural Areas, Transportation Infrastructure, Federal Wilderness Areas, Wetlands
 - Secondary includes: Agricultural Soils (prime + statewide = primary), FEMA Flood Zones, Conserved Lands, Deer Wintering Areas, Habitat Blocks (rankings 9 and 10), Hydric Soils
- Regions and towns can start with these maps and add areas where they would like to encourage or avoid development.

Example: Bennington RPC

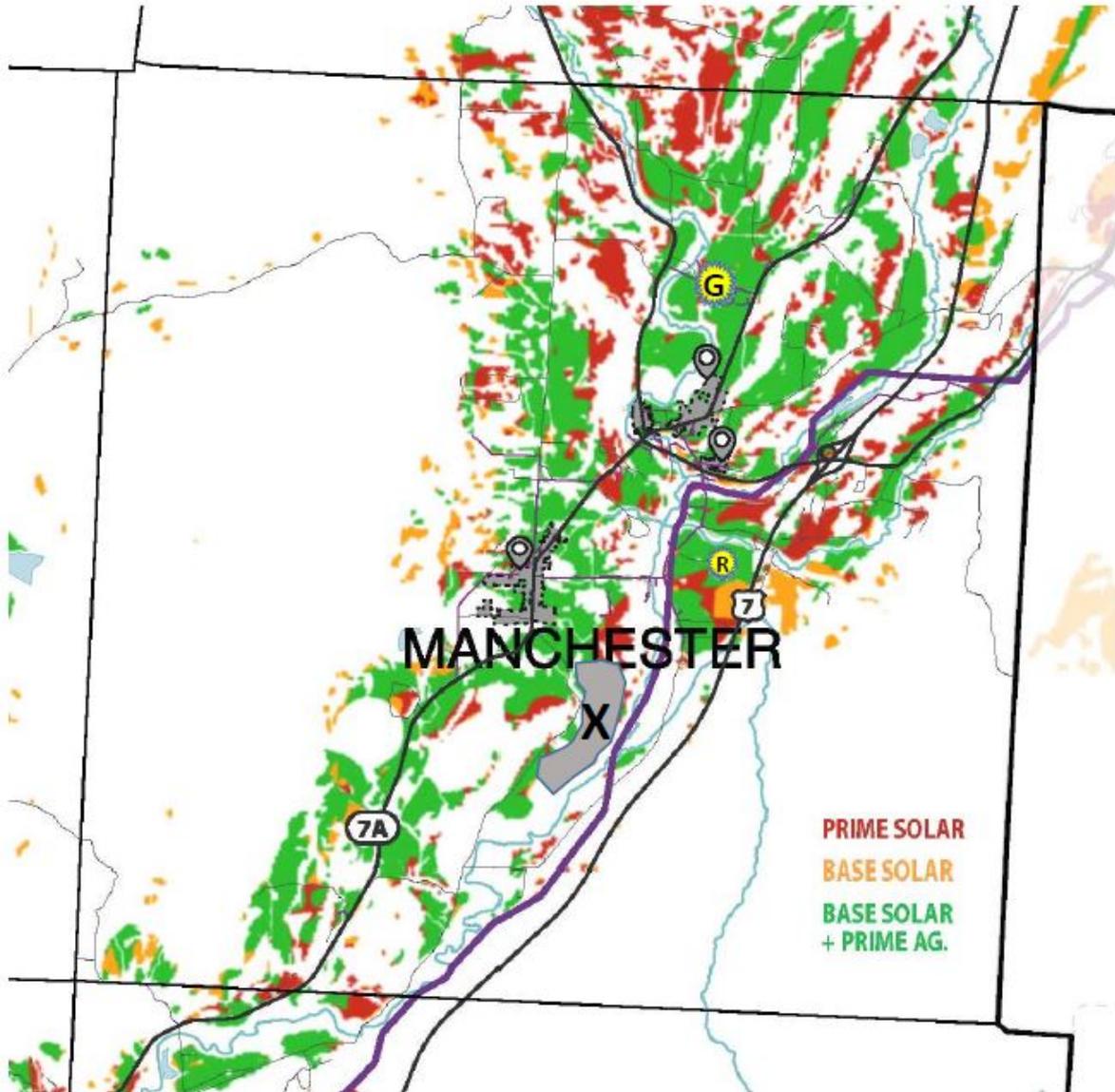
Mapping steps:

1. Identify areas that have good resource potential.
2. Overlay primary and secondary constraints, to identify unconstrained/less-constrained areas
3. Refine with local knowledge, and capturing plan policies

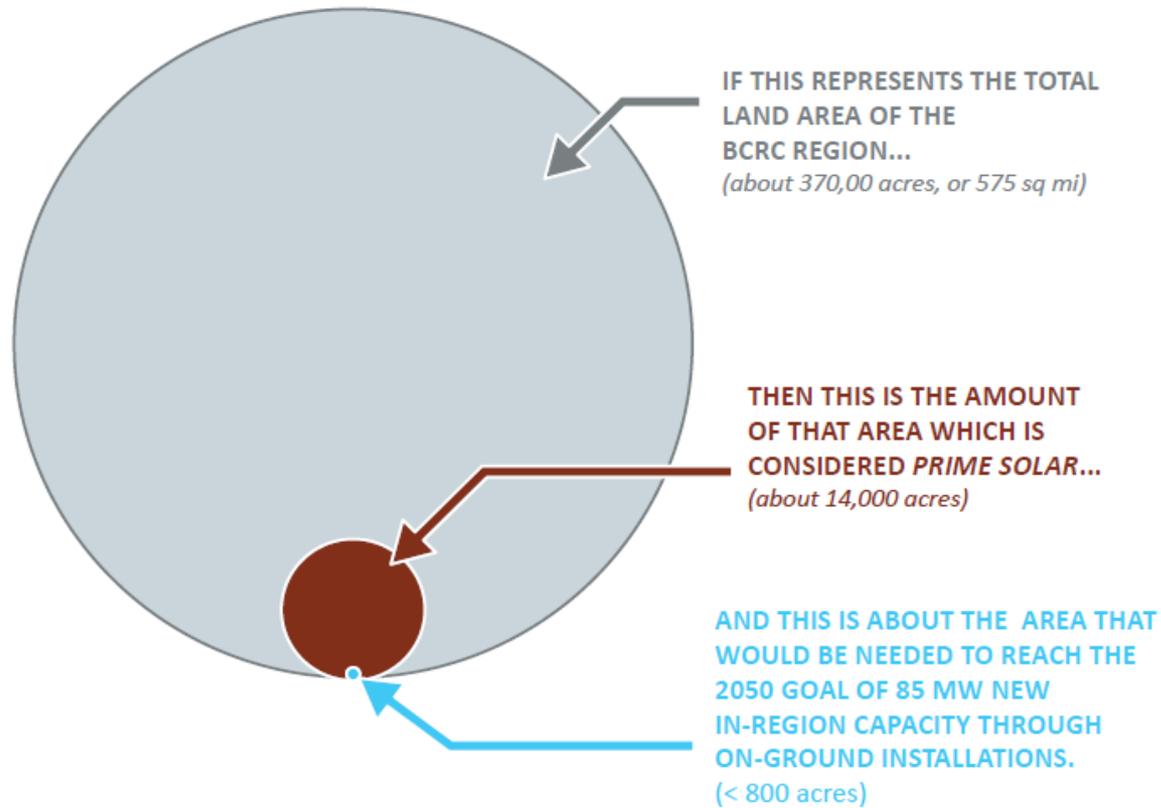


Example: Bennington RPC

- Act 174 calls for identification of potential areas for the development and siting of renewable resources, taking into account resource availability, environmental constraints, and the grid
- Also unsuitable areas for resources or resource categories/sizes



Example: Bennington RPC



Questions?

Breakout sessions

- Will focus on specific standards the Department should apply when reviewing regional and town plans.
- If **specific standard language** comes to mind, write it on a sticky note to post on the wall when we reconvene.
- You can vote for particular ideas after we reconvene using your dots.

Number	Room
1	Annex
2	Reading Room
3	Conference Room
4	Noble Front
5	Noble Back

Remaining Agenda

10:00 - Break (10 minutes)

10:10 - Break-out discussion sessions (1 hour 20 minutes)

11:30 - Reconvene to discuss results and dot voting (30 minutes)

12:00 - Conclude

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Reconvening

1. Add your post-its to the wall organized by category
2. Summary by Jon Copans
3. Dot voting

Don't forget to complete our survey by September 5:

<http://publicservice.vermont.gov//content/act-174-recommendations-and-determination-standards>

Comments may also be submitted to: PSD.PlanningStandards@Vermont.gov

Keep an eye out for draft standards and comment opportunities later in September!

Thank you for participating!